



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/576,305	04/19/2006	Emmanuel Villard	P29172	4486
7055 7590 01/09/2008 GREENBLUM & BERNSTEIN, P.L.C. 1950 ROLAND CLARKE PLACE RESTON, VA 20191			EXAMINER REDDY, KARUNA P	
			ART UNIT 1796	PAPER NUMBER
			NOTIFICATION DATE 01/09/2008	DELIVERY MODE ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

gbpatent@gbpatent.com  
pto@gbpatent.com

<b>Office Action Summary</b>	<b>Application No.</b> 10/576,305	<b>Applicant(s)</b> VILLARD ET AL.	
	<b>Examiner</b> Karuna P. Reddy	<b>Art Unit</b> 1796	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 21 November 2007.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1, 5, 6 and 9-17 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1, 5-6 and 9-17 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

### **DETAILED ACTION**

1. This office action is in response to the amendment filed on 11/21/2007.  
  
Applicants cancelled claims 2-4, 7-8 and amended claims 9, 15. Claims 1, 5-6, 9-17 are currently pending in the application.
2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

### ***Claim Rejections - 35 USC § 103***

3. Claims 1, 9-10, 12-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Arfaei et al (US 5, 703, 174) in view of Abrutyn et al (US 4, 885, 127) and Dubey (US 6, 641, 658 B1) and Vassilevsky et al (US 3, 667, 978).

The rejection is adequately set forth in paragraph 6 of office action mailed 5/21/2007 and is incorporated here by reference.

4. Claims 6 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Arfaei et al (US 5, 703, 174) in view of Abrutyn et al (US 4, 885, 127) and Dubey (US 6, 641, 658 B1) and Vassilevsky et al (US 3, 667, 978) as applied to claim 1 above, and further in view of Albright et al (US 6, 930, 133 B2).

The rejection is adequately set forth in paragraph 7 of office action mailed 5/21/2007 and is incorporated here by reference.

5. Claims 1, 4-5 and 15-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tsubakimoto et al (JP 57-057706) in view of Abrutyn et al (US 4, 885, 127) and Dubey (US 6, 641, 658 B1) and Vassilevsky et al (US 3, 667, 978).

The rejection is adequately set forth in paragraph 8 of office action mailed 5/21/2007 and is incorporated here by reference.

### ***Response to Arguments***

6. Applicant's arguments, see page 4, lines 20-29; page 5, lines 1-17, filed 11/21/2007, with respect to objection have been fully considered and are persuasive. The objection of claims 2-4, 6, 9, 11 and 15 has been withdrawn.
7. Applicant's arguments filed 11/21/2007 have been fully considered but they are not persuasive. Specifically, applicant argues that (A) Arfaei et al teaches against combination with Abrutyn because the comb-like polymers of Arfaei et al are water soluble while the comb-like polymers of Abrutyn et al is cross-linked which would indicate that they are water insoluble; (B) Albright et al is cited for beads having a specific gravity from about 0.2 to about 0.9 and is not apparent

specific gravity (defined as specific gravity of a porous solid when the volume used in the calculations is considered to exclude the permeable voids) but ordinary specific gravity which includes pore volume; and (C) applicants have shown unexpected results over spray dried polymers and dissolved polymer i.e. efficiency of polymer in bed form is the same as that of the polymer in liquid form.

With respect to (A), applicant points to column 8, lines 4-7 to argue that the preparation of polymers of Arfaei et al in aqueous solution indicates water soluble nature of comb-like polymers while the comb polymer of Abrutyn et al is directed to a water-insoluble polymer. In fact, after neutralization with aqueous NaOH solution the solids content is adjusted to 40% with de-ionized water i.e. Arfaei et al disclose a solid polymer. The cited reference of Abrutyn et al teaches advantages of comb polymers in bead form i.e. their free flowing nature.

With respect to (B), by definition<sup>1</sup> bulk specific gravity includes both permeable and impermeable voids while apparent specific gravity excludes permeable voids. Thus, the apparent specific gravity includes impermeable voids while excluding permeable voids. While Albright et al is silent with respect to the term apparent specific gravity, examples teach that porous beads have impenetrable skin (column 4, lines 55-56) i.e. voids are impermeable. Thus, the teachings of Albright are directed to apparent specific gravity and not ordinary specific gravity as alleged by the applicant.

---

<sup>1</sup> <http://composite.about.com/library/glossary/s/bldef-s5054.htm> is merely included as evidence for definition of specific gravity.

With respect to (C), free flowing nature of comb polymers in bead form is already well recognized in the teachings of Abrutyn et al and is not unexpected as alleged by the applicant.

### ***Conclusion***

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

### ***Contact Information***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Karuna P. Reddy whose telephone number is (571) 272-6566.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vasu Jagannathan can be reached on (571) 272-1119. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Karuna P Reddy  
Examiner  
Art Unit 1796

/KR/

Application/Control Number:  
10/576,305  
Art Unit: 1796

Page 7

/Vasu Jagannathan/  
Supervisory Patent Examiner  
Technology Center 1700